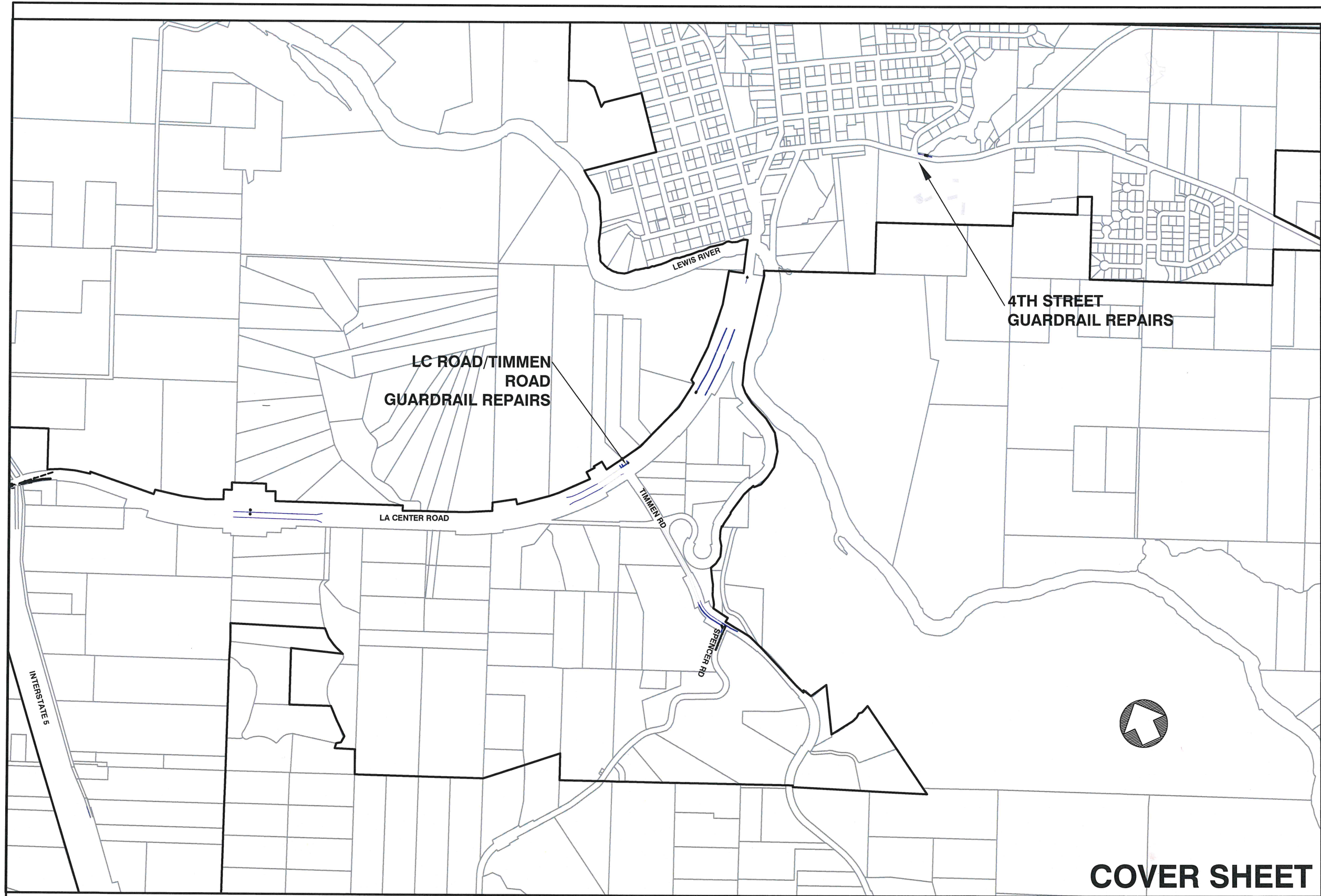


ALC



COVER SHEET

LA CENTER
GUARDRAIL PLAN -2025

SIZE	DWG NO.	SCALE
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2025 GUARDRAIL REPAIR PROJECT

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NORTHWEST UTILITIES

NOTIFICATION CENTER

DESIGNED	ALC
DRAWN	ALC

DRAWN	ALC
CITY PROJECT #	

HOR.	NONE
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VERT.	NONE
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3	0.000
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100	0.000

DATE	2-1-2025
DWG:	GUARDRAIL

SHEET 1 OF 4

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NORTHWEST UTILITIES

NOTIFICATION CENTER

DESIGNED	ALC
DRAWN	ALC

DRAWN	ALC
CITY PROJECT #	

HOR.	NONE
------	------

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100	0.000

DATE	2-1-2025
DWG:	GUARDRAIL

SHEET 1 OF 4

ALC

STONECREEK DR

**APPROXIMATELY 38 LINEAL
FEET OF NEW GUARDRAIL AND 5 NEW
NEW WOODEN POSTS**



4TH STREET

CONSTRUCTION NOTES

THE CONTRACTOR SHALL VERIFY THE EXACT LENGTH AND TYPE OF GUARDRAIL IN THE FIELD BEFORE ORDERING AND INSTALLING MATERIALS.

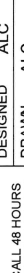


SEE SHEET 4 FOR TYPICAL GUARDRAIL SECTION

- ① **WOODEN I-BEAM POST**
- ② **GUARDRAIL REPLACEMENT PER WSDOT
STD PLAN C-22.40-08**
- ③ **THE DEPTH OF THE WOODEN I-BEAM
POSTS SHALL BE 8-FEET MINIMUM OR AS
RECOMMENDED**
- ④ **SEE WSDOT SPECIFICATIONS FOR INSTALLATION**

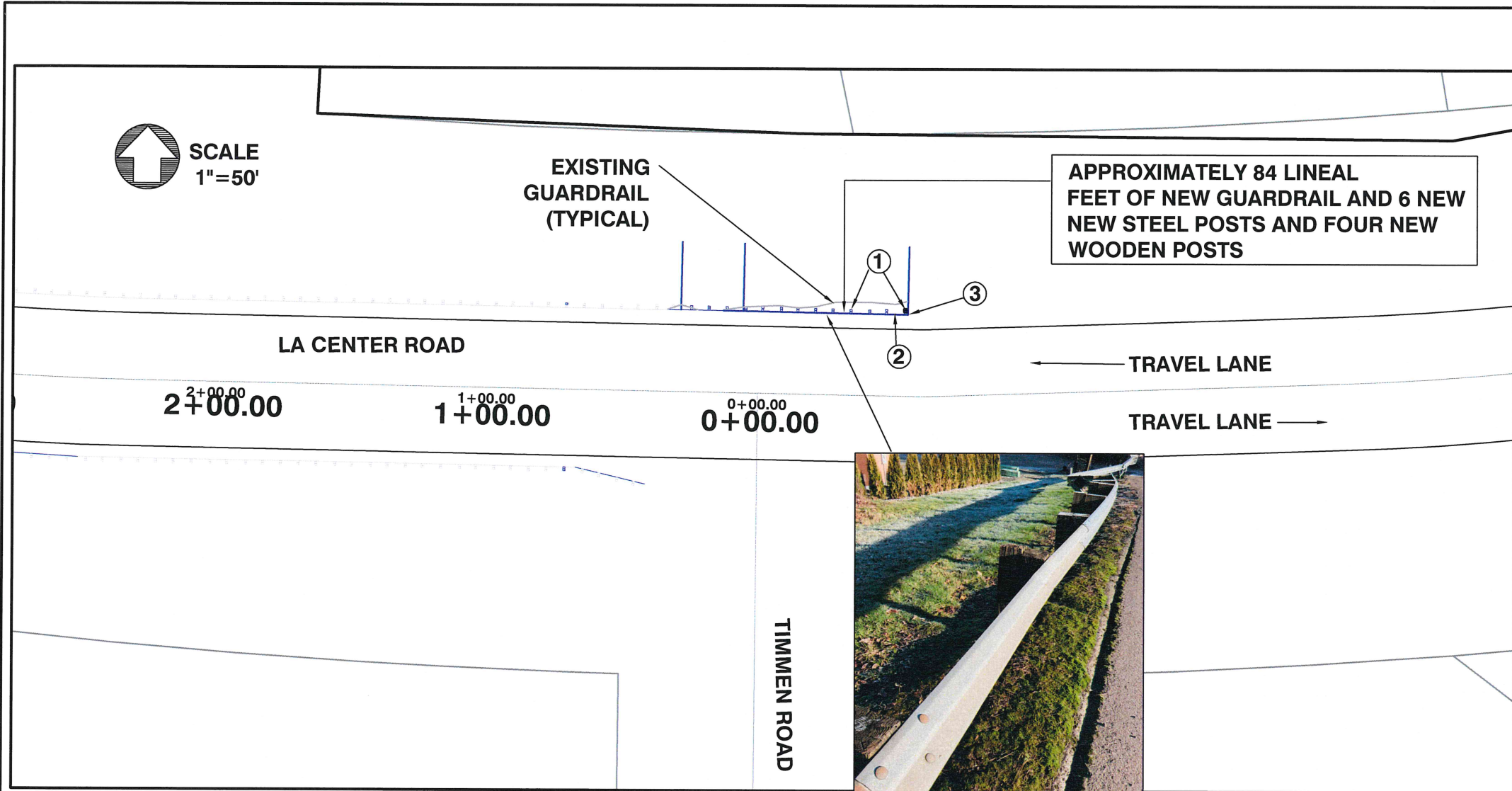


LA CENTER
GUARDRAIL PLAN -2025

SIZE	DWG NO.	SCALE
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 <p> CITY OF LA CENTER 305 NW PACIFIC HWY LA CENTER, WA 360) 263-7665 360) 263-7666 FAX 98029 www.ci.lacenter.wa.us </p>	<div> <div>REV #</div> <div>REVISION</div> <div>DATE</div> </div>		<div> <div>  </div> <div> <div>CALL 48 HOURS BEFORE YOU DIG</div> <div>1-800-424-5555</div> <div>"It's the Law"</div> </div> </div>	<div> <div>DESIGNED</div> <div>ALC</div> </div> <div> <div>DRAWN</div> <div>ALC</div> </div> <div> <div>CITY PROJECT #</div> <div>001</div> </div> <div> <div>HOR.</div> <div>NONE</div> </div> <div> <div>VERT.</div> <div>NONE</div> </div> <div> <div>DATE</div> <div>January 2025</div> </div> <div> <div>DWG:</div> <div>2025 GUARDRAIL</div> </div> <div> <div>SHEET</div> <div>2</div> <div>OF</div> <div>4</div> </div>
	<div> <div>2025 GUARDRAIL REPAIR PROJECT</div> </div>			<div> <div> <div>NORTHWEST</div> <div>NOTIFICATION CENTER</div> </div> </div>

ALC



GUARDRAIL REPLACEMENT NOTES

- ① STEEL I-BEAM POSTS
- ② BEGIN GUARDRAIL TYPE 31
PER WSDOT STD PLAN C20-10-06.
- ③ BEGIN SRONG POST INTERSECTION GUARDRAIL PER WSDOT STD
PLAN C-2P.
- ④ THE DEPTH OF THE STEEL I-BEAM
POSTS SHALL BE 11-FEET MINIMUM

CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL VERIFY THE EXACT
LENGTH AND TYPE OF GUARDRAIL IN THE FIELD
BEFORE ORDERING AND INSTALLING
MATERIALS.

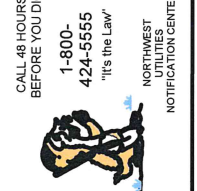
SEE SHEET 3 FOR TYPICAL GUARDRAIL SECTION

LA CENTER
GUARDRAIL PLAN -2025

REV # DATE REVISION

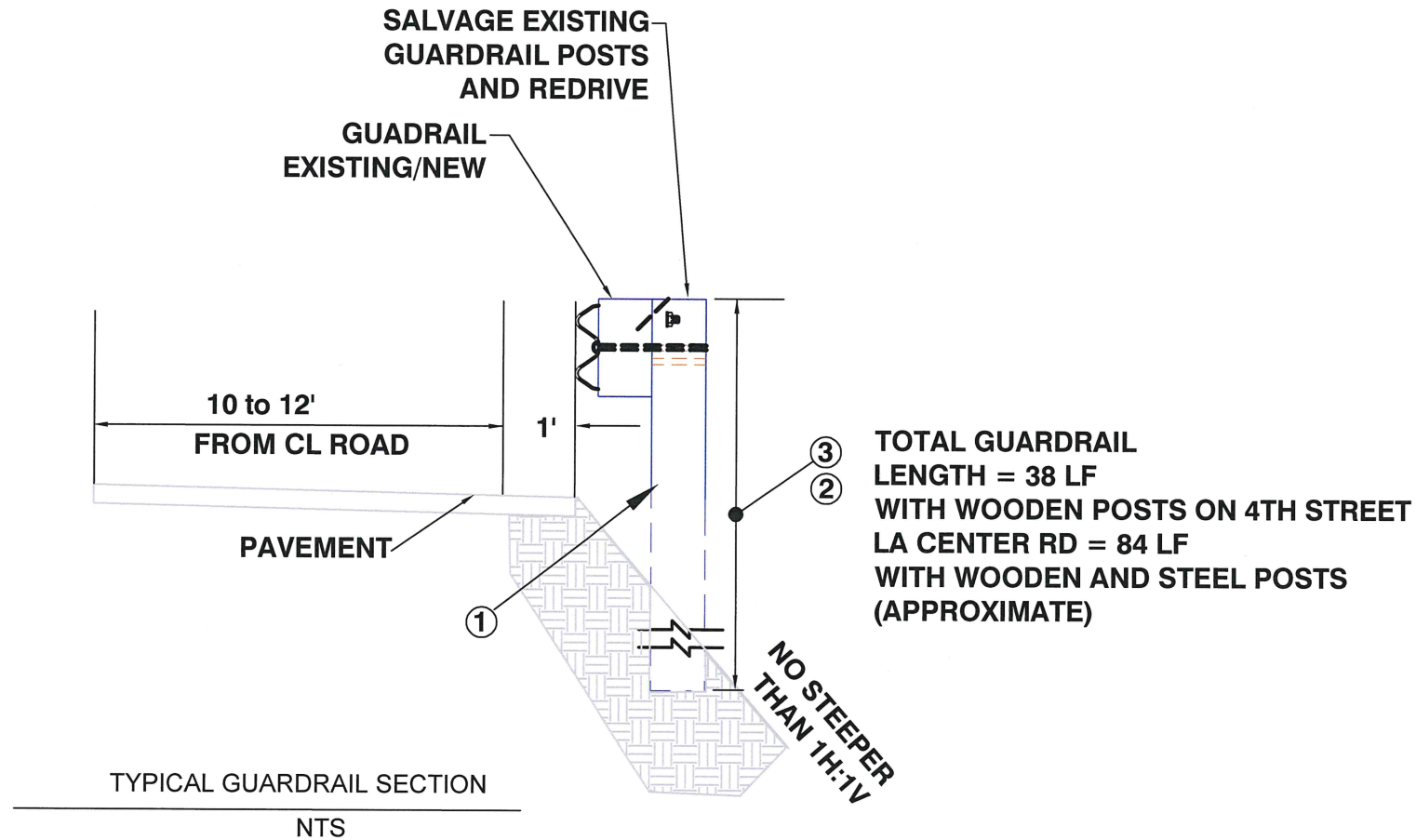


2025 GUARDRAIL REPAIR PROJECT



DESIGNED	ALC
DRAWN	ALC
CITY PROJECT #	
HOR.	NONE
VERT.	NONE
DATE	2-1-2025
DWG.	GUARDRAIL
SHEET	3 OF 4

ALC



CONSTRUCTION NOTES

THE CONTRACTOR SHALL VERIFY THE EXACT LENGTH AND TYPE OF GUARDRAIL IN THE FIELD BEFORE ORDERING AND INSTALLING MATERIALS.

GUARDRAIL REPLACEMENT NOTES

- ① WOODEN OR STEEL I-BEAM POST
- ② THE DEPTH OF THE WOODEN I-BEAM POSTS SHALL BE 8-FEET MINIMUM OR AS RECOMMENDED
- ③ THE DEPTH OF THE STEEL I-BEAM SHALL ME A MINIMUM OF 11-FEET.
- ④ BY WSDOT SPECIFICATIONS

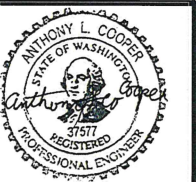


LA CENTER
GUARDRAIL PLAN -2025

REV # DATE REVISION



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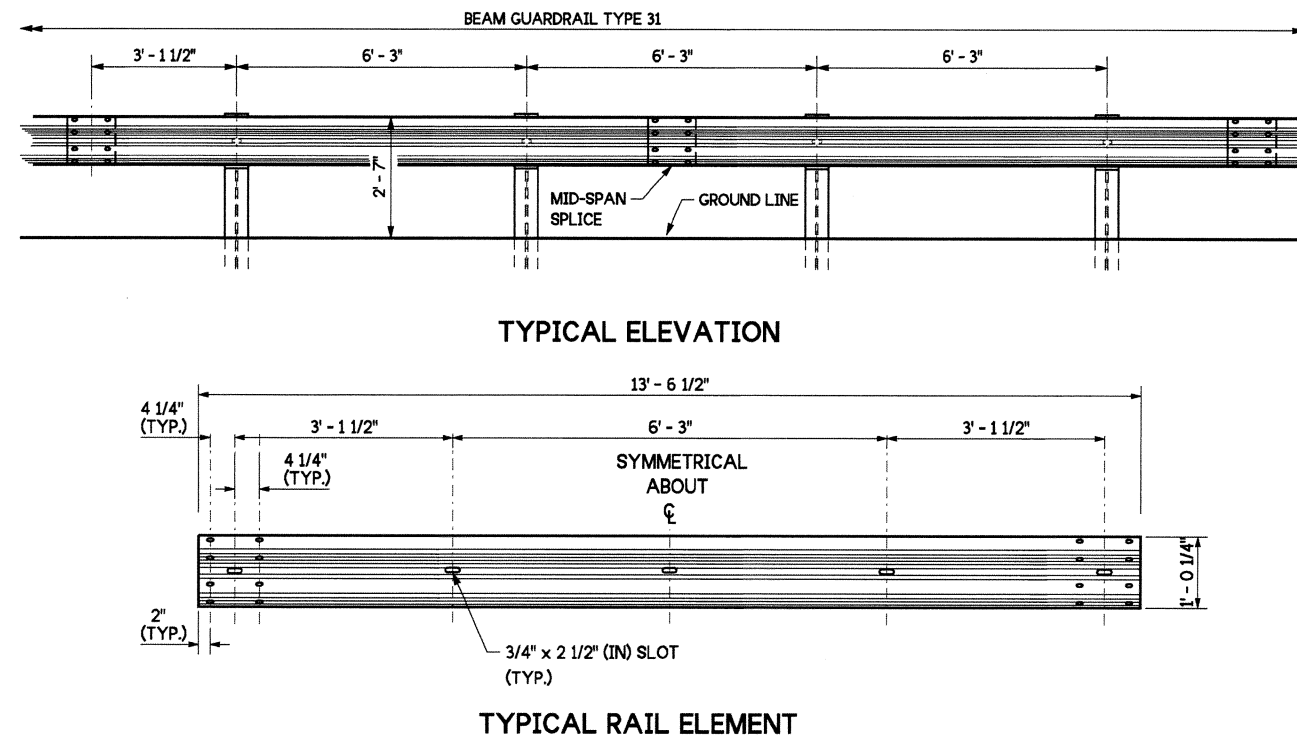
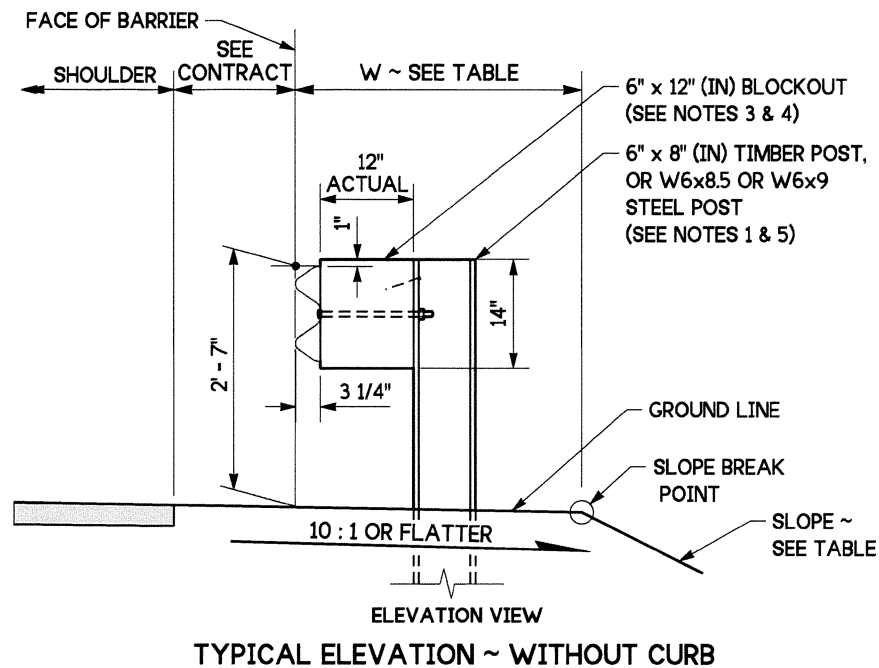


2025 GUARDRAIL REPAIR PROJECT



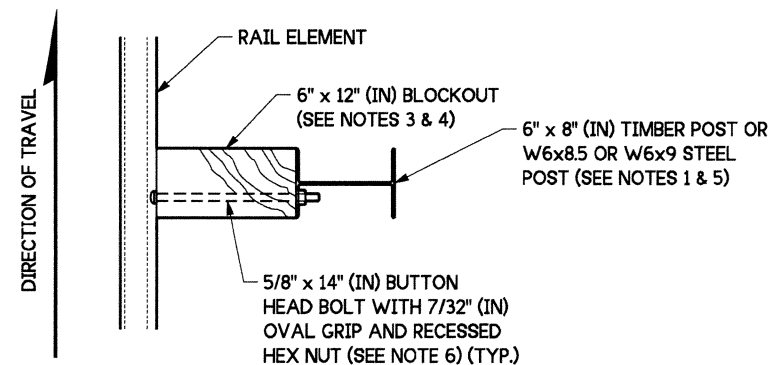
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424-5555
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DESIGNED ALC
DRAWN ALC
CITY PROJECT # 002
HOR. 1"=50'
VERT. NONE
DATE January 2025
DWG: 2025 GUARDRAIL
SHEET 4 OF 4



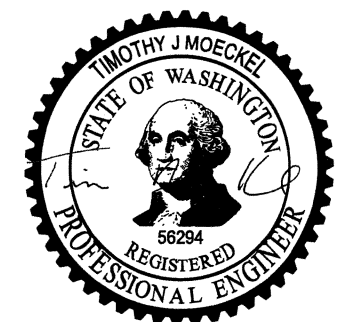
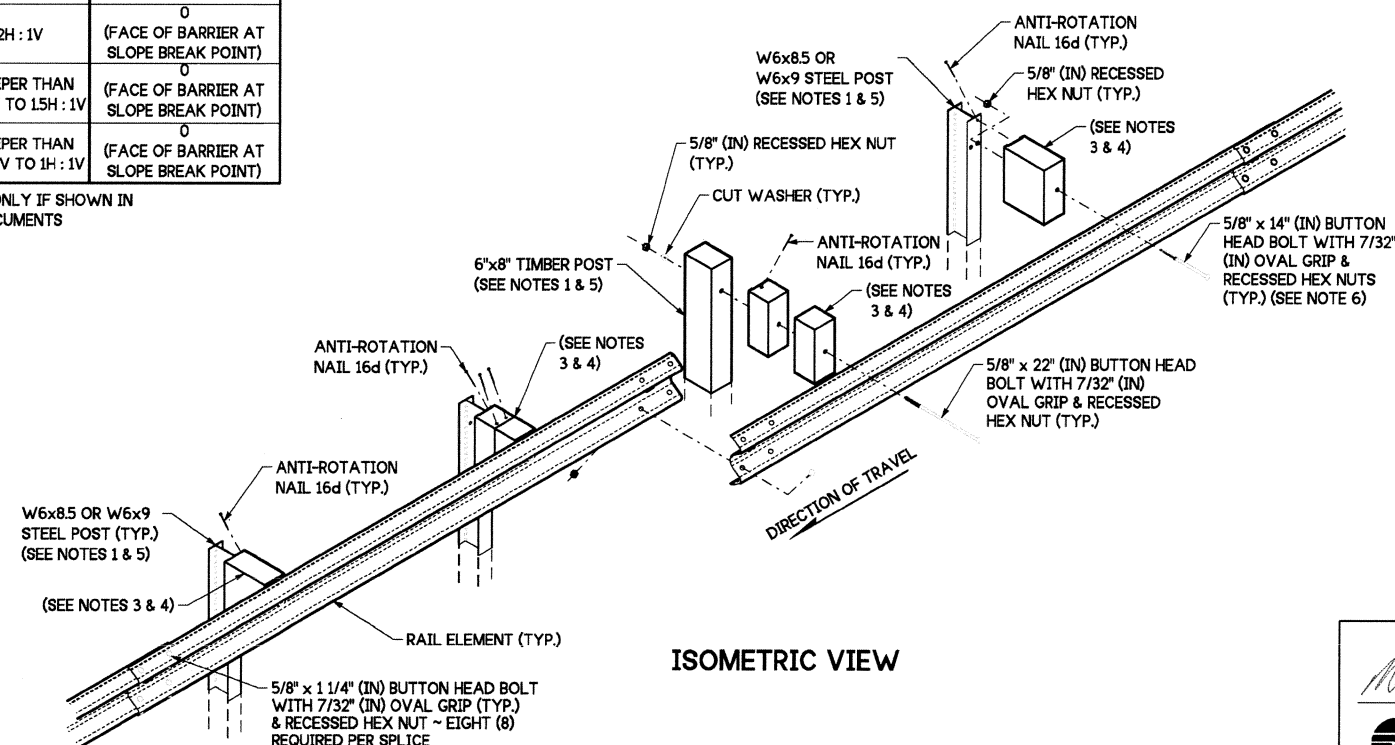
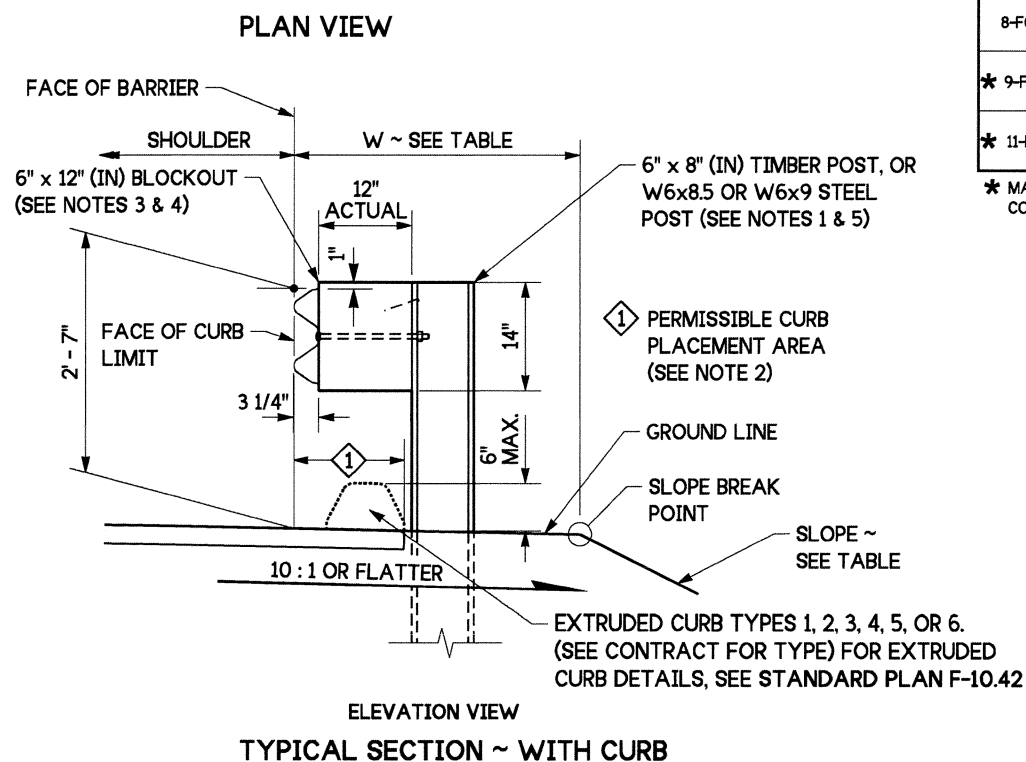
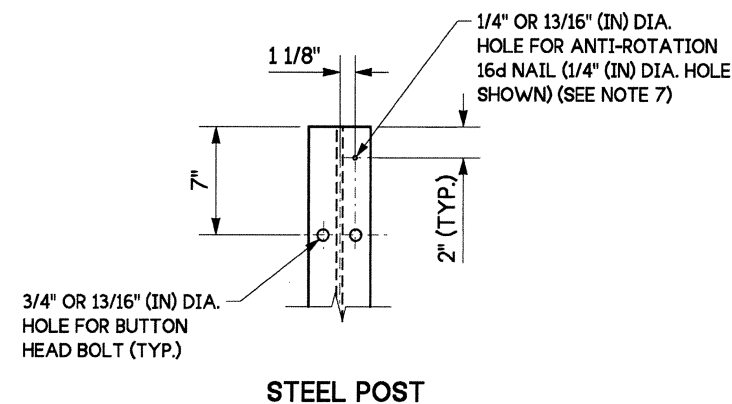
NOTES

1. Refer to Standard Plan C-1b for additional details not shown on this plan.
2. Extend shoulder pavement to provide a base for the extruded curb. See Contract Plans for exceptions to distances shown.
3. Use a single block or combination of blocks (no more than two (2) to achieve the actual 12" (in) offset. See Standard Specification Section 9-16.3(2). Wood blocks shall be secured to the posts with anti-rotation nails. If combination blocks are used, the adjacent blocks shall be toenailed with two 16d galvanized nails to prevent block rotation.
4. Wood blocks are shown. Blocks of an approved alternative material may be used. See Standard Specification Section 9-16.3(2).
5. All posts for any standard barrier run shall be of the same type; timber or steel.
6. Attach blockouts to steel posts using bolt holes on approaching traffic side of post web.
7. Anti-rotation holes in steel posts are not required when using blocks with anti-rotation features (e.g., routed blocks).



SLOPE/EMBANKMENT TABLE FOR 6', 8', 9', AND 11' LONG POSTS		
POST LENGTH	SLOPE	W (FT)
6-FOOT	2H:1V OR FLATTER	25 MIN.
6-FOOT	1H:1V OR FLATTER	4.0 MIN.
8-FOOT	STEEPER THAN 2H:1V TO 1H:1V	25 MIN.
8-FOOT	2H:1V	0 (FACE OF BARRIER AT SLOPE BREAK POINT)
* 9-FOOT	STEEPER THAN 2H:1V TO 15H:1V	0 (FACE OF BARRIER AT SLOPE BREAK POINT)
* 11-FOOT	STEEPER THAN 15H:1V TO 1H:1V	0 (FACE OF BARRIER AT SLOPE BREAK POINT)

* MAY BE USED ONLY IF SHOWN IN CONTRACT DOCUMENTS



Oct 12, 2023

BEAM GUARDRAIL TYPE 31

STANDARD PLAN C-20.10-09

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Mark A. Davies

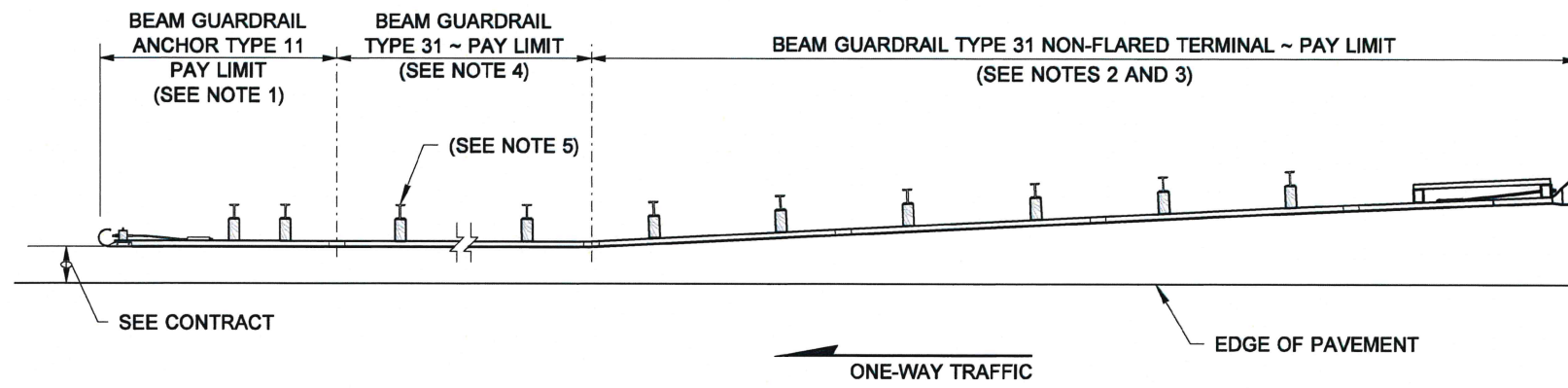
Oct 12, 2023



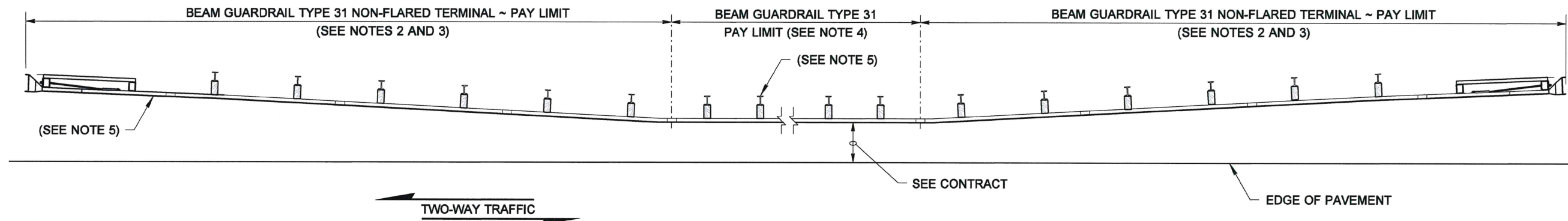
Washington State
Department of Transportation

STATE DESIGN ENGINEER

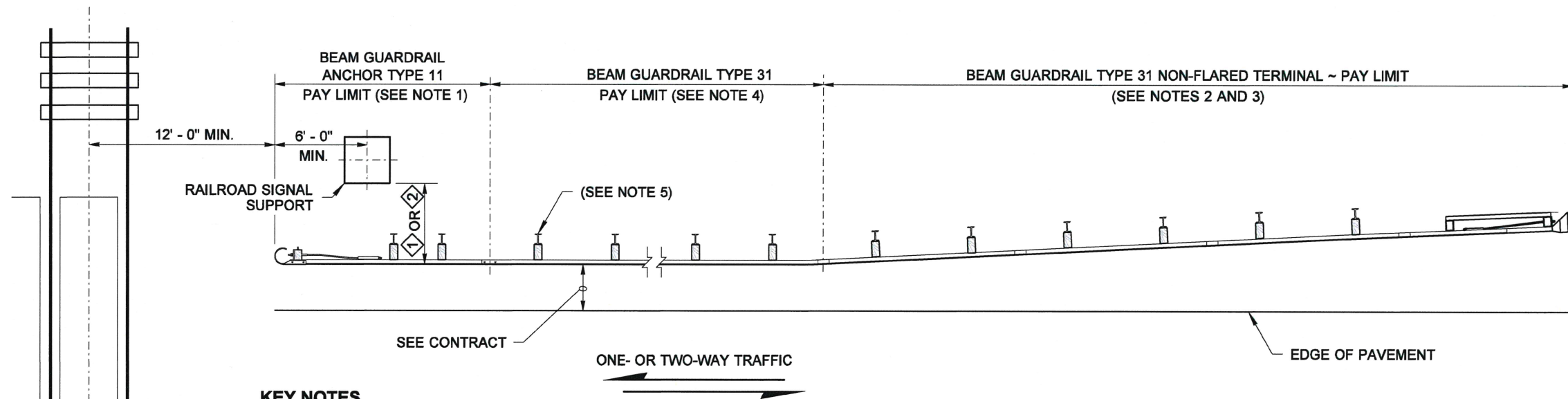
DRAWN BY: FERN LIDDELL



CASE 1-31



CASE 2-31



CASE 3-31

KEY NOTES

- ① 9' - 0" Min. when railroad signal support is located 25-feet or less from end of guardrail run.
- ② 5' - 0" Min. when railroad signal support is located greater than 25-feet from end of guardrail run.

NOTES

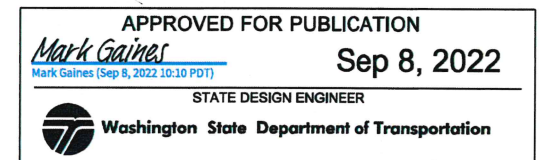
1. Where a crashworthy terminal is not required, use Beam Guardrail Anchor Type 11; see **Standard Plan C-23.70**.
2. Where a crashworthy terminal is required, use a Beam Guardrail Type 31 Non-Flared Terminal; see **Standard Plan C-22.40 or C-22.45**.
3. For terminal type and details, see Contract Plans and applicable drawings.
4. For additional details not shown on this plan, refer to **Standard Plan C-20.10**.
5. Timber or steel post. Steel post shown.



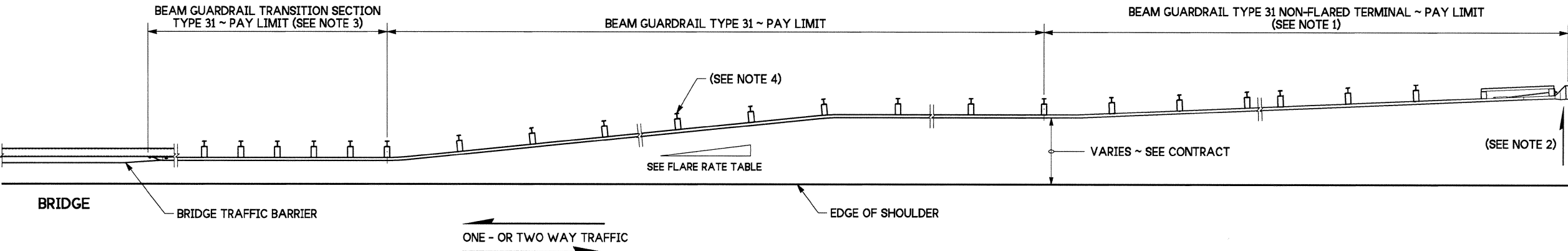
Sep 8, 2022

**BEAM GUARDRAIL TYPE 31
PLACEMENT
(CASES 1-31, 2-31 & 3-31)
STANDARD PLAN C-20.14-05**

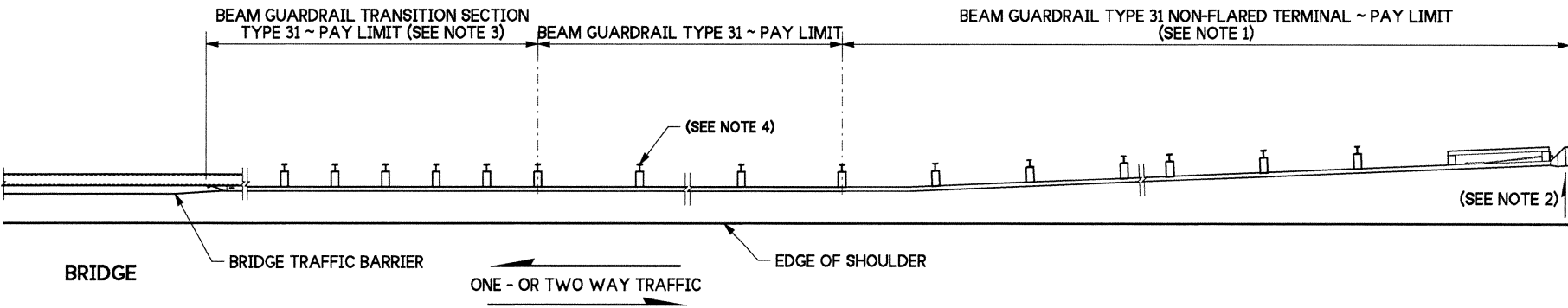
SHEET 1 OF 1 SHEET



- NOTES:
- 1. For details, see Standard Plan C-22.40 or C-22.45.
 - 2. The slope from the edge of the paved shoulder into the back of the guardrail post should not be steeper than 10H : 1V.
 - 3. See Contract for Beam Guardrail Transition Section type and Connection to Bridge Traffic Barrier or Concrete Barrier. See Standard Plan C-24.10 for connection details.
 - 4. Timber or steel post. Steel post shown.

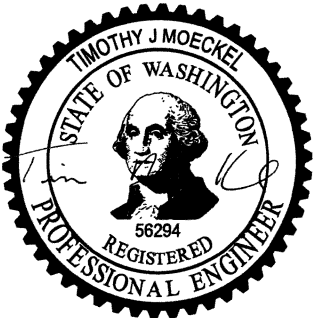


CASE 4 - 31



CASE 5 - 31

FLARE RATE TABLE	
POSTED SPEED (MPH)	RATE (FT)
65 - 70	15 : 1 OR FLATTER
60	14 : 1 OR FLATTER
55	12 : 1 OR FLATTER
50	11 : 1 OR FLATTER
45	10 : 1 OR FLATTER
40 OR LESS	9 : 1 OR FLATTER



Oct 12, 2023
BEAM GUARDRAIL TYPE 31
PLACEMENT
CASES (4-31 & 5-31)
STANDARD PLAN C-20.15-03

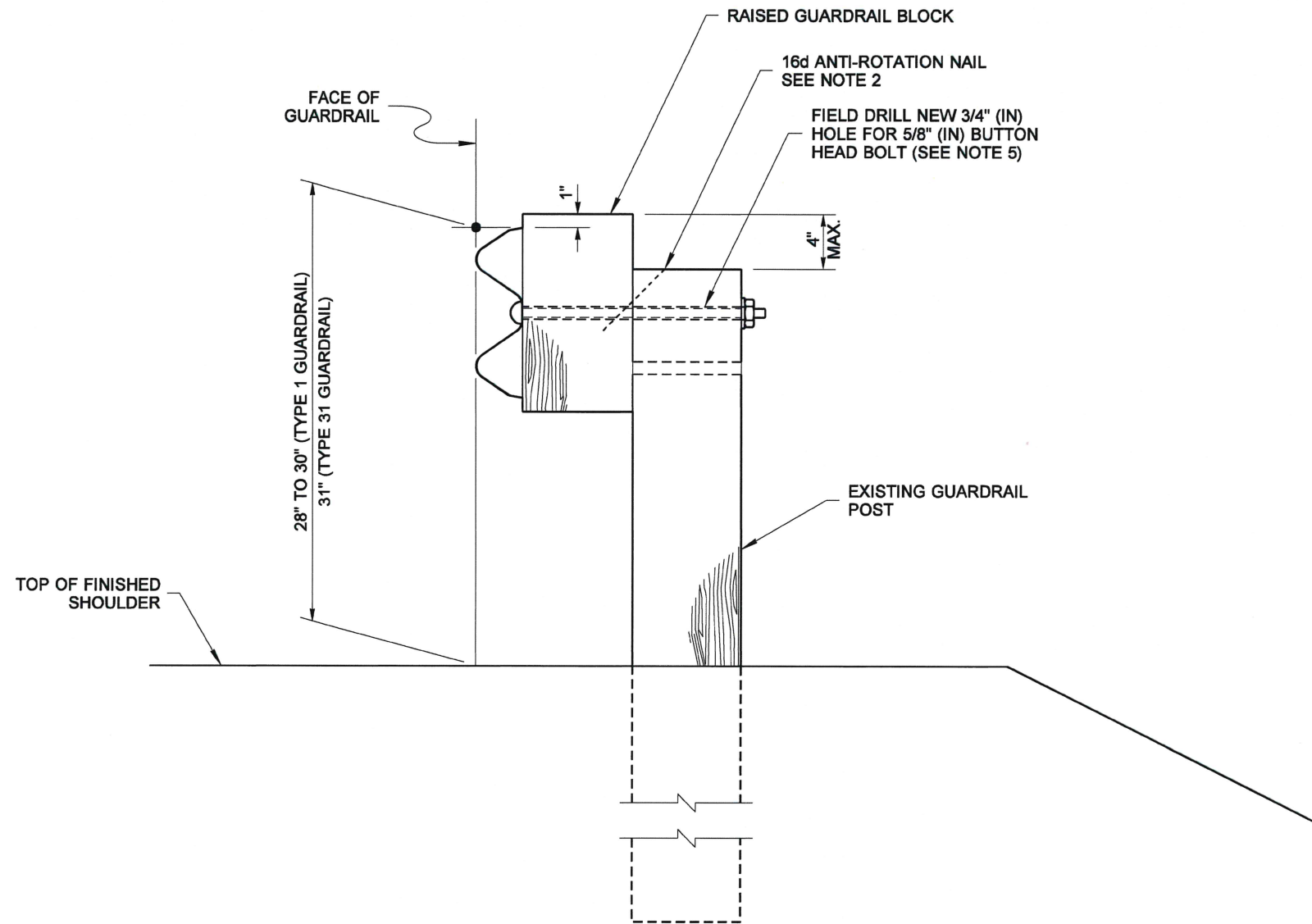
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Mark A. Davies Oct 12, 2023

STATE DESIGN ENGINEER

Washington State
Department of Transportation



RAISING BEAM GUARDRAIL DETAIL
FOR LOW GUARDRAIL OR HMA OVERLAYS
(LOW GUARDRAIL CONDITION SHOWN)

NOTES

1. Remove all rail washers, also called "Snow Load Rail Washers" when encountered during Raising Beam Guardrail work and when the guardrail raising work requires removal of the rail.
2. Timber blocks shall be toe-nailed to the post with a 16d galvanized nail to prevent block rotation.
3. For post and block details, see **Standard Plan C-1b**.
4. Existing posts shall not be raised. Replace posts as necessary to achieve required guardrail height.
5. For steel posts, holes shall be located on approach traffic side of web.



Sep 8, 2022

RAISING BEAM GUARDRAIL DETAIL

STANDARD PLAN C-1

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Mark Gaines

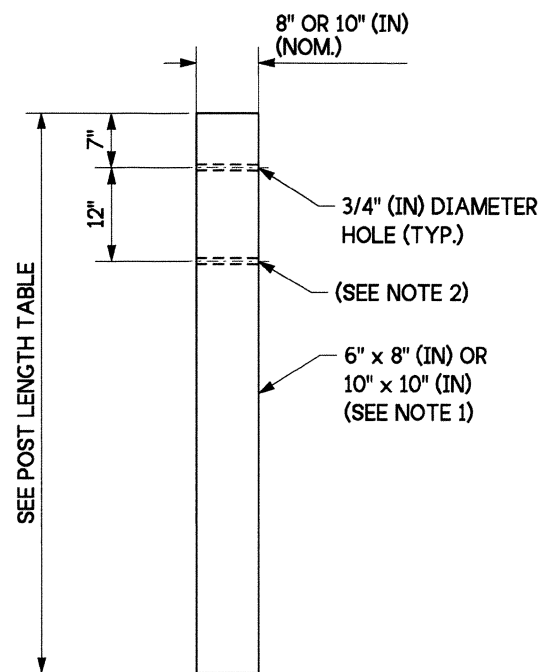
Mark Gaines (Sep 8, 2022 10:17 PDT)

Sep 8, 2022

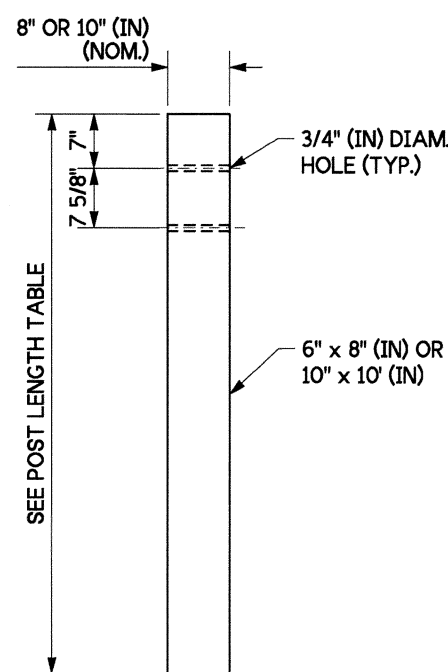
STATE DESIGN ENGINEER



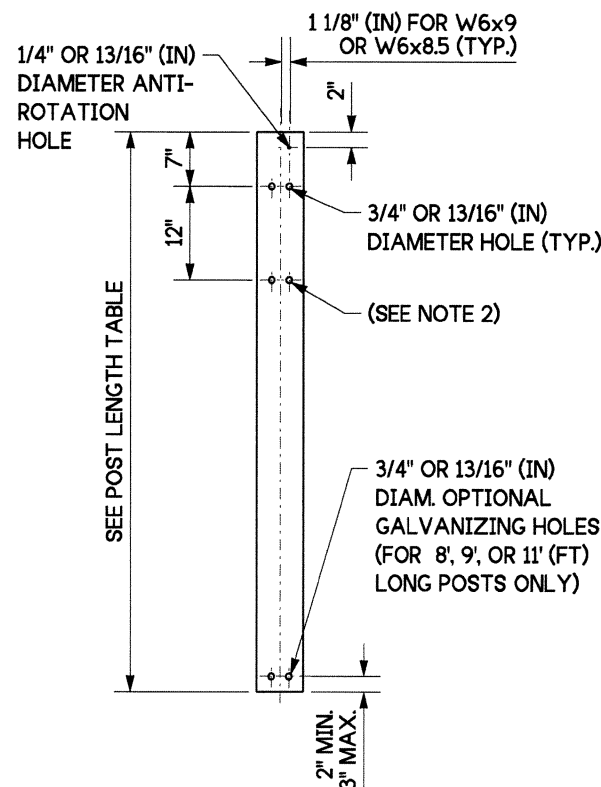
Washington State Department of Transportation



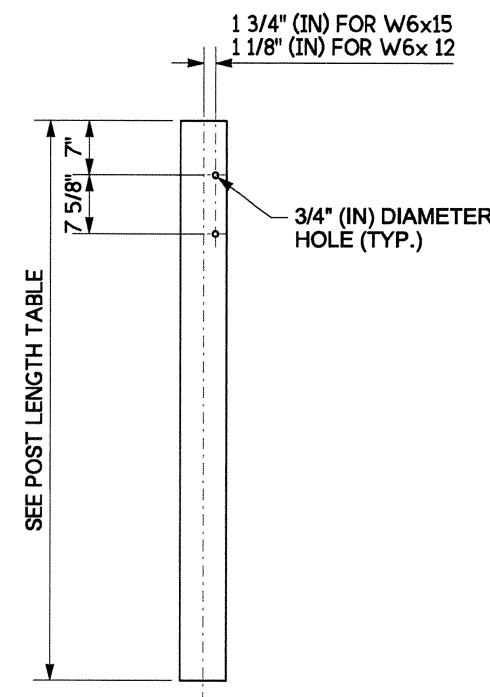
W-BEAM
(WOOD POST)



THRIE-BEAM
(WOOD POST)



W-BEAM
(STEEL POST ~ SEE NOTES 3 AND 4)



THRIE-BEAM
(STEEL POST ~ SEE NOTES 3 AND 4)

NOTES:

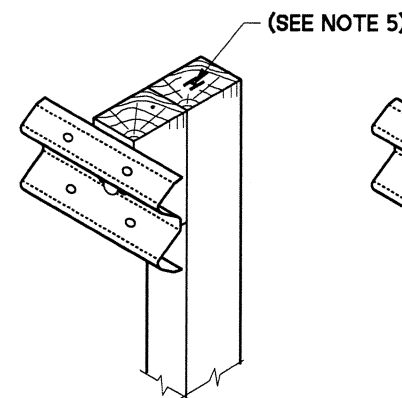
1. Wood posts for all guardrail placement plans shall be 6" x 8" (in) except where noted otherwise.
2. Lower hole is for w-beam rub rail of Beam Guardrail Type 31 - Buried Terminal Type 2.
3. W6x8.5 or W6x9 steel posts and timber blocks are alternates for 6x8 timber posts and blocks. W6x15 steel posts and timber blocks are alternates for 10" x 10" (in) timber posts and blocks.
4. Attach blockouts to steel posts using bolt holes on approaching traffic side of post web.
5. When "Beam Guardrail Type - _ _ Ft. Long Post" is specified in the contract, the post length shall be stamped with numbers, 1 1/2" min. high x 3/4" (in) wide at the location where the letter "H" is shown in the ASSEMBLY DETAIL. For wood post applications, the letter shall be stamped to a minimum depth of 1/4" (in). For steel post applications, the letter shall be legible after the post is galvanized. After post installation, it shall be the Contractor's responsibility to ensure the stamped numbers remain visible.

POST LENGTH TABLE	
GUARDRAIL TYPE	LENGTH
TYPE 31	6' - 0"
	8' - 0" *
	9' - 0" *
	11' - 0" *
THRIE BEAM	VARIES **

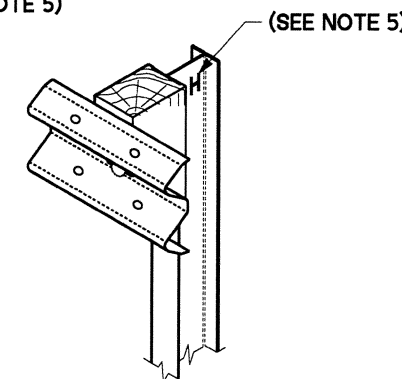
* SEE CONTRACT FOR "BEAM GUARDRAIL TYPE - _ _ FT. LONG POST" LENGTHS. (SEE NOTE 5)

** SEE STANDARD PLANS FOR THRIE BEAM POST LENGTHS

ROUTERD WOOD BLOCKS FOR STEEL POST TABLE		
POST	A	B
W6 x 8.5	6" NOMINAL	4 1/4"
W6 x 9	6" NOMINAL	4 1/4"
W6 x 12	6" NOMINAL	4 1/4"
W6 x 15	8" NOMINAL	6 1/4"

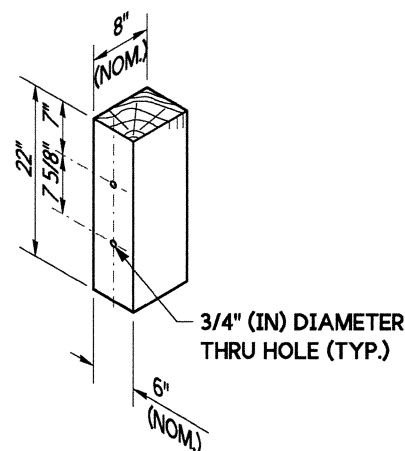


TIMBER POST

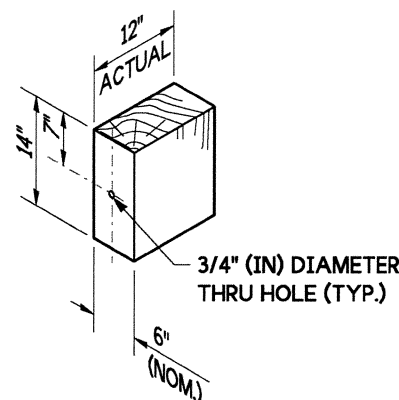


STEEL POST

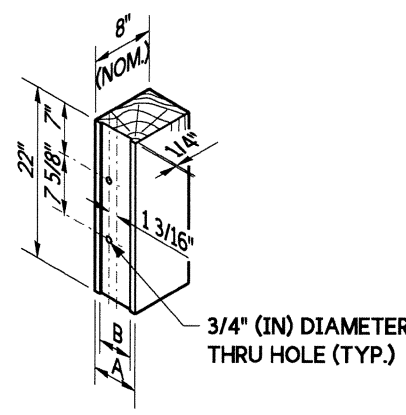
PARTIAL ASSEMBLY DETAIL



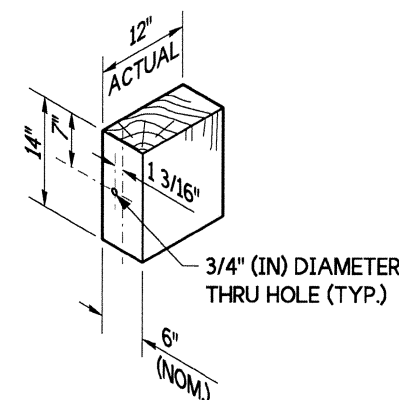
THRIE-BEAM WOOD BLOCK
FOR WOOD POST



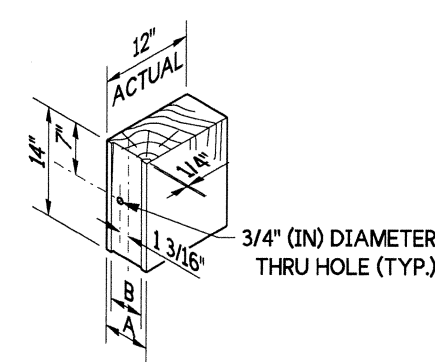
W-BEAM WOOD BLOCK
FOR WOOD POST



ROUTERD THRIE-BEAM
WOOD BLOCK FOR
STEEL POST



W-BEAM WOOD BLOCK
FOR STEEL POST



ROUTERD W-BEAM WOOD BLOCK
FOR STEEL POST



Oct 12, 2023

BEAM GUARDRAIL POSTS AND BLOCKS STANDARD PLAN C-1b

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Mark A. Davies

Oct 12, 2023



Washington State
Department of Transportation

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